S/203/62/002/001/015/019
I023/I223

Phenomena accompanying the flight of...

fusion. Evaporation is more effective in the front part, fusion - in the rest of the meteorite. The contributions of evaporation and fusion are different at different stages of the flight. There are 6 figures and 1 table.

ASSOCIATION: Moscovskiy planetariy (The Moscow Planetarium)

SUBMITTED: December 1, 1961

Card 3/3

26.1153
26.2114

39941
S/258/62/002/001/010/013
I017/I217

AUTHOR: Bronshten, V. (Moscow)

TITLE: The ionisation and recombination processes in air at very high temperatures

PERIODICAL. Inzhenernyy zhurnal, v. 2, no. 1, 1962, 163–170

TEXT: Shock waves in air cause not only dissociation of molecules but also ionisation of atoms. Calculation of the ionisation and recombination in air, behind the wave front (plasma state), depend on the ionisation coefficient Z_r and recombination coefficient C_r/r = degree of ionisation). The author calculates these parameters for air, as the data found in the literature on similar processes are very contradictory. Results are given in a graph of Z_r as function of T_e. Air was taken to be a monocomponent gas and the potential and coefficients of ionisation of nitrogen and oxygen are corrected according to the relative content of these gases in air (0.78 and 0.22 respectively). The ionisation coefficient in the upper level increases abruptly with the decreasing of the level bond energy. The author surveys methods for calculating the ionisation coefficient of hydrogen at all levels. Important papers on the deviation from Boltzman's function studied by Thompson, Ivanov-Cholodni, Biberman and Oulianov are cited. The probability of ionisation in the case of hydrogen, for the n layer is known. The calculation shows that in the case of a true gas, an n_0 level exists, which is the upper limit of ionisation. The different values of n_0 for various kinds of plasma are given. As n_0 for air has a low value as for a real gas the n_0 level does not exist simultaneously in all the atoms, it follows that the effective value of n_0

Card 1/3

is a fractional number. A method is given for finding the value of n_0 for air at very high temperatures and from this the ionisation coefficient is calculated. The recombination process is studied for air, both in the case of energy (quanta) emission and also in the case of triple collisions, in which the energy transmitting particle is almost always an electron. The coefficient C_r for air is graphically expressed as a function of the temperature; the classical relationships are modified because a large part of the upper levels does not exist (opposite ionisation). A new quantum number, n_{eff} (effective) which represents the effective limit level is stated. The relationship between the effective coefficient of triple collision recombination and the electron concentration is studied and graphically expressed. It is shown that at low electron concentrations the coefficient increases slowly, the recombination passes through a maximum and finally reaches a saturation value due to the opposite ionisation n_{eff} increases proportionally to $T^{-1/7}$ with decrease of T. The recombination by emission of triple collision depends on the value of n_e (electron concentration) and the degree of ionisation: if $n_e = 10^{16}$, the value of the triple recombination of the ions NV or OV represents 1–2% of the emission recombination and is negligible. If $n_e = 10^{18}$ this percentage increases to 7–13% and in the case of $n_e = 10^{20}$, to 120%. The role of the triple collision recombination process is greater for ions in a lower state of oxidation. The effective coefficient of the triple recombination process is calculated for $T_e = 100\,000°$ and $T_v = 77$ eV.

Card 2/3

The ionisation and...

S/258/62/002/001/010/013
I017/I217

Classical formulae are modified and adapted to this case of complex atoms. The results give the ionisation coefficient for all the levels and for the coefficient of triple collision recombination of air in the range of electronic temperatures T_e = (3—30) 10^4 °K. There are 8 figures.

SUBMITTED: November 27, 1961

Card 3/3

X

BRONSHTEN, V.A., nauchnyy konsul'tant

Is it possible to create artificial atmosphere on the moon? Priroda 51 no.6:117 Je '62. (MIRA 15:6)

1. Moskovskiy planetariy.
(Moon)

KUROCHKIN, Nikolay Yefimovich; TSESEVICH, V.P., otv. red.; BRONSHTEN, V.A., red.

[Instruction for the observation of variable stars] Instruktsiia dlia nabliudeniia peremennykh zvezd. Moskva, Izd-vo Akad. nauk SSSR, 1963. 36 p. (MIRA 16:5)

1. Chlen-korrespondent Akademii nauk Ukr.SSR (for TSesevich).
(Stars, Variable)

SIMONENKO, Alla Nikolayevna; FEDYNSKIY, V.V., doktor fiziko-matem. nauk, otv. red.; BRONSHTEN, V.A., red.izd-va; ASTAF'YEVA, G.A., tekhn. red.

[Treatment of meteor photographs]Obrabotka fotografii meteorov. Moskva, Izd-vo Akad. nauk SSSR, 1963. 38 p. (MIRA 16:2)
(Meteors) (Astronomical photography)

BRONSHTEN, Vitaliy Aleksandrovich; STANYUKOVICH, K.P., doktor tekhn. nauk, prof., otv. red.; MAKOGONOVA, I.A., tekhn. red.; ZUDINA, V.I., tekhn. red.

[Problems of the motion of large meteorites in the atmosphere] Problemy dvizheniia v atmosfere krupnykh meteoritnykh tel. Moskva, Izd-vo AN SSSR, 1963. 122 p. (MIRA 16:12)
(Meteorites)

STANYUKOVICH, K.P.; BRONSHTEN, V.A.

Interstellar flights. Kosmos no.1:3-24 '63. (MIRA 16:8)

(Space flight)

BRONSHTEN, V.A.

Legends which pass as hypotheses. Priroda 52 no.10:90-91 '63.
(MIRA 16:12)

1. Moskovskiy planetariy.

AM4029016 BOOK EXPLOITATION S/

Bronshten, Vitaliy Aleksandrovich

Problems associated with motion of large meteorites in the atmosphere (Problemy* dvizheniya v atmosfere krupny*kh meteoritny*kh tel). illus., biblio. 1300 copies printed. (At head of title: Akademiya nauk SSSR. Vsesoyuznoye astronomo-geodezicheskoye obshchestvo) 1964.

TOPIC TAGS: flow around meteorite, shock wave front, dissociation in shock wave, ionization in shock wave, shock wave temperature distribution, ionization kinetics, heat transport, heat exchange, meteorite ablation

PURPOSE AND COVERAGE: The book systematizes and clarifies the principal elementary processes which occur in a shock wave interacting with a meteorite, especially the kinetics of the ionization and its influence on the temperature distribution in the shock wave, an effect hitherto not taken into account in calculations of the thermal action of a shock wave on a meteorite. Thermal blocking is also considered. Problems connected with the properties of ballistic waves of meteorites at considerable distances from the body and their action on objects on earth are not dealt with. The book is intended for readers familiar with the principles of meteors physics and with general principles of gas dynamics. The author thanks

Card 1/3

the scientific editor of the book Professor K. P. Stanyukovich for continuous help, Doctor of Physical Mathematical Sciences B. Yu. Levin, Doctor of Physical Mathematical Sciences L. M. Biberman, Doctor of Physical Mathematic Sciences S. B. Pikel'ner, and Professor G. I. Pokrovskiy for useful discussions and Candidate of Physical Mathematical Sciences O. M. Belotserkovskiy and N. M. Kuznetsov for providing valuable material, as well as A. N. Chigorin for programming the necessary calculations on the "Strela" computer and the council of the Moscow division of Vsesoyuzoye astronomo-geodicheskoye obshchestso and the Astronomy-council of AN SSSR for making these calculations possible.

TABLE OF CONTENTS [abridged]:

AM4029016

SUB CODE: AA SUBMITTED: 23Sep63 NR REF SOV: 069

OTHER: 055 DATE ACQ: 12Mar64

Card 3/3

L 17657-65 EWT(l)/EWP(m)/FCS(k)/EWA(h) Pd-1/Pi-4 AFWL/ASD(a)-5/SSD(b)/BSD/ ASD(p)-3/AEDC(a)/SSD/SSD(a)/ASD(m)-3/AS(mp)-2/SSD(c)/AFETR/RAEM(d)/ESD(dp)/ESD(t)/ ASD(f)-2

ACCESSION NR: AP5001149 S/0294/64/002/006/0860/0868

AUTHOR: Bronshten, V. A.; Chigorin, A. N.

TITLE: Establishing the equilibrium ionization and temperature in a strong shock wave in air

SOURCE: Teplofizika vysokikh temperatur, v. 2, no. 6, 1964, 860-868

TOPIC TAGS: shock wave, strong shock wave, ionization, equilibrium ionization, kinetic equation, electron collision, electron concentration, electron temperature, electron diffusion

ABSTRACT: The results obtained from numerical calculations of the kinetics of ionization and of variations in ionic and electronic temperatures behind a strong, shock-wave front are presented. Elementary processes in nonequilibrium regions are outlined and previous papers on the subject are discussed. The computations, which made use of kinetic equations for strong, shock-wave ionization, were performed in the Computing Center of the Academy of Sciences SSSR with initial ionic-temperature values $T_i = 5 \times 10^4$, 5.8×10^5, and 2×10^6C, air densities in the shock wave of 10^{20} and 10^{18} atom/cm^3, and an initial

Card 1/2

L 17657-65

ACCESSION NR: AP5001149

relative electron concentration of 10^{-2}. Conservation of the Boltzman distribution in all electronic levels at temperature T_e behind a shock wave is assumed. Time dependences of electron densities and temperatures are presented in graphs and analyzed. Equilibrium ion concentrations and temperatures are established for initial conditions rather rapidly in 10^{-7} to 10^{-10} sec. In conclusion, the author states that the process can be divided into three sections: 1) the initial section, 2) the "avalanche ionization" section, and 3) the section for temperature and establishing equilibrium. The sequence of occurrence of different ionization stages and the ratio of concentrations of different multiplicity are determined by the ratio of ionization coefficients. Orig. art. has: 9 figures and 5 formulas.

ASSOCIATION: Moskovskoye otdeleniye Vsesoyuznogo actronomo-geodezicheskogo obshchestva AN SSSR (Moscow Branch of the All-Union Astro-geodetic Society, Academy of Sciences, SSSR)

SUBMITTED: 20Nov63 ENCL: 00 SUB CODE: ME

NO REF SOV: 008 OTHER: 002 ATD PRESS: 3152

Card 2/2

ACCESSION NR: AP4032731 S/0033/64/041/002/0416/0418

AUTHOR: Bronshten, V. A.

TITLE: The probability of hydrogen ionization by electron collision

SOURCE: Astronomicheskiy zhurnal, v. 41, no. 2, 1964, 416-418

TOPIC TAGS: hydrogen ionization, ionization coefficient, ionization cross section, electron collision

ABSTRACT: A comparison is made of the empirical expressions for the ionization cross sections and the formulas for the coefficient of ionization by electron collision using data from three earlier studies. The following formula

$$q_i(E) = 3.14 \cdot 10^{-10}(E - \chi_i) / E^{1.3}, \quad (1)$$

(where E is the energy of the oncoming electron in electron volts, χ_1 is the ionization potential of hydrogen) gives the best representation of the experimental cross sections for electron energies $E \leq 100$ ev, while formula

$$q_i(E) = 2.98 \cdot 10^{-13}(\ln E - \ln \chi_i) / E, \quad (2)$$

is best for $E > 100$ ev. The ionization coefficients are represented by

Card 1/2

ACCESSION NR: AP4032731

$$Q_1 = 0.89 \cdot 10^{-10} T_e^{1/2} e^{-\chi_1/kT_e} \quad (3)$$

(where T_e is electron temperature), and

$$Q_1 = 1.1 \cdot 10^{-8} T_e^{-1/2} Ei_1(\chi_1 / kT_e) \quad (4)$$

(where $Ei_1(x)$ is the exponential integral function); however, the result obtained from (3) is slightly too high and that from (4) is too low. Orig. art. has: 4 formulas and 2 tables.

ASSOCIATION: Moskovskiy planetariy (Moscow Planetarium)

SUBMITTED: 28May63 DATE ACQ: 11May64 ENCL: 00

SUB CODE: NP NO REF SOV: 002 OTHER: 001

Card 2/2

ACCESSION NR: AP4015059 S/0026/64/000/001/0095/0099

AUTHOR: Bronshten, V. A.

TITLE: Rockets study the silvery clouds

SOURCE: Priroda, 53, no. 1, 1964, 95-99

TOPIC TAGS: silvery cloud, glacial-meteoric hypothesis, ice crystal, meteor particle, particle trap

ABSTRACT: The volcanic and meteoric hypotheses concerning the silvery clouds appearing at 75-90 km between 50-60° lat., in summer only, have been superseded by the glacial, proposed in 1926 by Wegener and Yardetskiy, and grounded in 1952 by I. A. Khvostikov, who compared the change in air pressure with altitude and the elasticity of saturated vapor at the temperature prevailing at the same altitude, and concluded that the necessary condition for formation of ice crystals from water vapor is fulfilled below 30 km and at 75-90 km. In 1954--1961 Khvostikov and the author further refined this idea from the results of USSR and USA rocket measurements of the distribution of pressure and temperature in the upper layers of the atmosphere, showing that in the medium latitudes (50-60°) the temperature at 80-85 km is much lower than in the lower latitudes (down to 165°K). They also

Card 1/3

ACCESSION NR: AP4015059

revealed a seasonal variation in temperature facilitating the formation of silvery clouds precisely in the summer, and accounted for their fine structure and the characteristics of their spectrum. N. I. Grishin has studied in detail their connection with the meteorologic conditions in the troposphere. It remained to be ascertained where the water vapor came from. In 1950 the author proposed a "compromise" hypothesis: meteor particles form nuclei of congealment. This explained the appearance of bright silvery clouds at night after the Tungus meteorite fell, and also some statistical agreements between the appearance of silvery clouds and the intensification of meteoric activity. The paper gives data from a 1959 detailed numerical analysis of this hypothesis; then describes the capture of such meteor particles by traps launched at Kronograd, Sweden, near the Arctic Circle in August, 1962, under the direction of Robert Soberman of the Cambridge (USA) Research Laboratory ("Scientific American", 1963, No. 6). Bearing in mind that the "halo" dimensions are several times larger than those of the solid particles, the author considers that the measurements of these samples confirm his estimate of the size of the ice crystals made from photometric observations. But the detailed chemical analysis has not yet been completed. Further rocket probes must be made, and the conditions and mechanism of formation of the clouds are still to be thoroughly studied.

Card 2/3

ACCESSION NR: AP4015059

Original has 4 photos (silver clouds over Moscow, traps, Nike-Cajun rocket and particles enlarged 30,000 times) and a diagram of collectors.

ASSOCIATION: Moskovskiy planetariy (Moscow Planetarium)

SUBMITTED: 00	DATE ACQ: 03Mar64	ENCL: 00
SUB CODE: AS	NO REF SOV: 000	OTHER: 000

Card 3/3

BRONSHTEN, V.A.

The nearest stars. Priroda 53 no.6:34-43 '64. (MIRA 17:6)

1. Moskovskiy planetariy.

ACCESSION NR: AT4035831 S/2534/64/000/024/0075/0081

AUTHOR: Bronshten, V. A.

TITLE: Problems in the movement of large meteors

SOURCE: AN SSSR. Komitet po meteoritam. Meteoritika, no. 24, 1964. Trudy* Desyatoy Meteoritnoy konferentsii v Leningrade 29 maya - 1 iyunya 1962 g., 75-81

TOPIC TAGS: meteor, meteor trail, meteor astronomy, atmospheric ionization, shock wave, meteor ablation, upper atmosphere

ABSTRACT: Processes accompanying the movement of meteor masses through the earth's atmosphere are reviewed. A review of the literature is followed by a brief discussion of formation of the shock wave, structure of the shock wave, the ionization process in the shock wave, and the configuration of the shock wave and the field of flow behind the wave front. For study of the distribution of ionization and temperature in the shock wave it is necessary to solve a system of equations of ionization kinetics. The author has written a system of 10 ordinary differential equations describing the change of the ion temperature T_i, the electron temperature T_e, the degree of ionization x, and other parameters. It is shown that behind the wave front the ion temperature T_i

Card 1/3

ACCESSION NR: AT4035831

exceeds the electron temperature T_e by a factor of 5 to 100. It is noted that when the degree of ionization reached 10^{-3} the principal ionization mechanism is electron collision. Ionization by electron collision is accompanied by reverse processes: recombination with radiation and triple collisions. Solution of the system of equations was done on a "Strela-4" electronic computer and yielded the following results: 1) Immediately behind the shock-wave front the ionization temperature T_i falls relatively slowly and there is a slow increase of T_e and x. This is followed by a rapid increase of ionization, accompanied by an increase of T_e and a decrease of T_i. Even when the shock wave has a small amplitude an equalization of temperatures occurs in a very short time; T_e passes through a maximum. 2) When shock waves have large amplitudes very rapid ionization begins when there is an extremely significant difference $T_i - T_e$ and T_e continually increases and T_i decreases; T_e does not have a maximum. 3) The rate of change of T_i has a steplike character and there are three regions of change of T_i: the hot region behind the wave front, the region of rapid ionization and rapid decrease of T_i, and the region where equilibrium sets in. Equilibrium can become established in the shock waves of large meteors, but does not always occur in the case of small meteors. 5) At great heights, ionization equilibrium usually is not reached in a shock wave due to low air density, and this means a small number of collisions. By solution of these equations it is possible to obtain the temperature distribution not only along the axis of the shock wave, but also throughout the volume. The three

ACCESSION NR: AT4035831

mechanisms by which heat is transferred to a meteor body are discussed: radiation, convective transfer, and electron heat conductivity. The relative role of the three mechanisms is compared; it is shown that in the general flow of heat acting on a meteor, the principal role is played by convective heat transfer and radiation; the latter is particularly important at high velocities and at great heights. Orig. art. has: 4 formulas and 1 figure.

ASSOCIATION: Komitet po meteoritam AN SSSR (Committee on Meteorites, AN SSSR)

SUBMITTED: 00 ATD PRESS: 3075 ENCL: 00

SUB CODE: AA NO REF SOV: 017 OTHER: 010

Card 3/3

BRONSHTEN, V.A., kand. fiziko-matem. nauk

Amateur astronomy in the U.S.S.R. Zem. i vsel. 1 no.1:84-89 Ja-F '65. (MIRA 18:7)

BRONSHTEN, V.A., kand. fiziko-matem.nauk

What are Mars' satellites like? Zem.i vsel. 1 no.2:67-69 Mr-Ap '65.
(MIRA 18:8)

BRONSHTEN, Vitaliy Aleksandrovich; GORODENSKIY, L.M., red.

[Radio waves from outer space; lecture aid materials] Radiovolny iz mirovykh glubin; material v pomoshch' lektoru. Moskva, Obshchestvo po rasprostraneniiu polit. i nauch. znanii RSFSR, 1961. 46 p. (MIRA 18:9)

SHARONOV, Vsevolod Vasil'yevich, prof. [deceased]; KULIKOV, G.S., red.; BRONSHTEN, V.A., red.

[The planet Venus] Planeta Venera. Moskva, Nauka, 1965. 251 p. (MIRA 19:1)

L 21490-66 EWT(1)/FCC/EWA(d) GW
ACC NR: AP6008767 SOURCE CODE: UR/0030/66/000/002/0156/0158

AUTHOR: Bronshten, V. A. (Candidate of physico-mathematical sciences)

ORG: none

TITLE: Fourth Congress of the All-Union Astronomical and Geodetic Society

SOURCE: AN SSSR. Vestnik, no. 2, 1966, 156-158

TOPIC TAGS: geophysic conference, astronomic conference, astronomy, astrophysics, descriptive astronomy, solar system, star, galaxy, geodesy

ABSTRACT: The Fourth Congress of the All-Union Astronomical and Geodetic Society of the Academy of Sciences USSR met in Riga from 26 to 30 October 1965. The Society's president, D. Ya. Martynov, noted that the number of members and divisions had increased one and a half times since the Third Congress in 1960. The Society now has branches in 44 cities of the USSR. Among the astronomical investigations conducted since the Third Congress were observations of meteors and noctilucent clouds during the IQSY, the total solar eclipse of 15 February 1961, variable stars, the planets, and the moon. In geodesy, the Society initiated the exchange of

Card 1/4

18

information on geodetic operations between geodesists engaged in the construction of cities, industrial establishments, hydraulic engineering works, etc. To help popularize the field, the Society helped to reactivate the publication of the journal *Zemlya i vselennaya*, after a lapse of 27 years.

Some 45 papers were read in the various sessions of the Congress. Most were survey reports intended to familiarize the delegates with the state-of-the-art and research trends in astronomy and geodesy. V. A. Ambartsumyan reported on the outlook in astrophysics, A. A. Mikhaylov on the new photographs of the far side of the moon, and I. D. Zhongolovich on problems in space geodesy. Reports which drew special attention were those of Ya. B. Zel'dovich and I. D. Novikov (physics of the catastrophic stage of star compression), K. F. Ogorodnikov and S. B. Pikel'ner (structure and evolution of galaxies), I. V. Gavrilov, B. Yu. Levin, and Yu. A. Khodak (lunar topography), V. N. Lebedinitsa (advances in meteor astronomy), and I. A. Khvostikov (nature of noctilucent clouds).

In geodesy, V. D. Bol'shakov reported on radio and light range finders for measuring short distances, M. S. Cheremisin on new geodetic

instruments, and G. M. Grinberg on the use of computers in geodesy. Yu. D. Bulanzhe, D. N. Fialkov, O. V. Yakubovskiy, P. P. Kazanchyan, P. I. Brayt, and others reported the results of investigations of the structure of horizontal and vertical movements of the earth's crust. N. A. Polyakov, Ye. A. Kudryavtseva, P. V. Dolgopolov, and others examined practical questions of geodetic services in industrial and urban construction.

The need to improve and modernize the teaching of astronomy in intermediate and advanced schools was emphasized. V. A. Bronshten and M. M. Shemyakin recommended that the example of Czechoslovakia be copied by setting up a broad network of observatories for the general public and amateurs.

Honorary members were elected in the closing sessions. These included the cosmonauts G. S. Titov and K. P. Feoktistov, Academician N. P. Barabashov, Professor R. V. Kunitskiy, and the popular astronomy writers V. I. Pryanishnikov and V. A. Shishakov. Society awards were given to the members of the Tunguska Meteorite Expedition, amateur

L 21490-66
ACC NR: AP6008767

3

telescope builders A. A. Mikheyev and S. K. Savin. D. Ya. Martynov was reelected president of the Society. [ATD PRESS: 4207-F]

SUB CODE: 03, 08 / SUBM DATE: none

Card 4/4 PB

BRONSHTEYN, A. (g. Mogilev)

Simplify the calculation of wages in foundries and machine shops. Bukhg.uchet 16 no.3:30-32 Mr '57. (MLRA 10:5)

1.Glavnyy bukhgalter Mogilevskogo zavoda "Strommashina". (Wages)

VINNIKOV, Ya. A.; TITOVA, L. K.; OSIPOVA, I. V.; BRONSHTEYN, A. A.

"Cytochemical and electron microscopical investigation of nucleolar RNA extruding into cytoplasm."

report submitted for 2nd Intl Cong, Histochemistry & Cytochemistry, Frankfurt, 16-21 Aug 64.

Leningrad.
Sechenov Inst of Evolutionary Physiology, AS USSR.

BRONSHTEYN, A. A.

Skin - Diseases

Course of aftereffects in some skin diseases. Vest. ven. i derm. No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1953 Unclassified.

BRONSHTEYN, A.A.; VITOVA, L.K.

Problems of cytochemistry, histochemistry, and cytophysiology at the Second Conference on Problems of Evolutionary Physiology, held in memory of Academician L.A.Orbeli at Leningrad, March 17-21, 1959. TSitologiia 1 no.4:473-475 Jl-Ag '59.
(MIRA 12:10)

(PHYSIOLOGY)

BRONSHTEYN, A. A.

"The Distribution of Nucleic Acids, 'Total' Protein, and Certain of its Functional Groups in the Olfactory Epithelium of Vertebrate Animals."

report submitted for the First Conference on the problems of Cyto and Histochemistry, Moscow, 19-21 Dec 1960.

Laboratory of Evolutionary Morphology of the Institute of Evolutionary Physiology Imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad.

BRONSHTEYN, A. A., VINNIKOV, YA. A., YAKOVLEV, V. A., TITOVA, L. K.

"The Localization and Distribution of the 'Total' Protein and its Functional (SH, -SS-, COOH) Groups in Corti's Organ Under Conditions of Relative Rest and in a State of Excitation."

report submitted for the First Conference on the problems of Cyto and Histochemistry, Moscow, 19-21 Dec 1960.

Institute of Evolutionary Physiology Imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad.

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000307020004-5"

BRONSHTEYN, A.A.

Cytochemical and histochemical investigation of the olfactory organ in ammmals. TSitologiia 2 no.2:194-200 Mr-Ap '60. (MIRA 14:5)

1. Laboratoriya evolyutsionnoy morfologii Instituta evolyutsionnoy fiziologii AN SSSR, Leningrad.
(NOSE)

NATOCHIN, Yu.V.; KRESTINSKAYA, T.V.; BRONSHTEYN, A.A.

Localization of the action of desoxycorticosterone in the nephron of the mammalian kidney. Dokl.AN SSSR 132 no.5:1177-1178 Je '60. (MIRA 13:6)

1. Institut evolyutsionnoy fiziologii im. I.M.Sechenova Akademii nauk SSSR. Predstavleno akademikom V.A. Engel'gardtom.
(KIDNEYS) (CORTICOSTERONE)

BRONSHTEYN, A.A.; KRESTINSKAYA, T.V.

Cytochemical study of the activity of succinic dehydrogenase in the mitochondria of quiescent and excited neurons of the spinal ganglia. Arkh. anat. gist. i embr. 40 no.5:39-46 My '61. (MIRA 15:4)

1. Laboratoriya evolyutsionnoy morfologii (zav. - prof. Ya.A.Vinnikov) Instituta evolyutsionnoy fiziologii imeni I.M.Sechenova AN SSSR. Adres avtorov: Leningrad, K-21. Staro-Pargolovskiy pr., 52, Institut evolyutsionnoy morfologii imeni I.M.Sechenova.
(SUCCINIC DEHYDROGENASE) (MITOCHONDRIA)
(NERVES, SPINAL)

YAKOVLEV, V.A.; TITOVA, L.K.; BRONSHTEYN, A.A.; VINNIKOV, Ya.A.

Localization and cytochemical characteristics of proteins of the hair cells of Corti's organ during a state of relative rest and during acoustic stimulation. Dokl. AN SSSR 136 no.2:456-459 '61. (MIRA 14:1)

1. Institut evolyutsionnoy fiziologii imeni I.M. Sechenova Akademii nauk SSSR. Predstavleno akademikom I.I. Shmal'gauzenom.

(PROTEINS IN THE BODY)
(SOUND--PHYSIOLOGICAL EFFECT)
(LABYRINTH (EAR))

BRONSHTEYN, A.A.

Localization of dehydrases in olfactory cells of vertebrates. Dokl. AN SSSR 142 no.4:936-939 F '62. (MIRA 15:2)

1. Institut evolyutsionnoy fiziologii im. I.M.Sechenova AN SSSR. Predstavleno akademikom N.M.Sisakyanom.
(DEHYDRASES)
(NOSE)

BRONSHTEYN, A.A.

Distribution of nucleic acids, proteins and some of their functional groups in olfactory cells of vertebrates. TSitologiia 4 no.4:418-426 Jl-Ag '62. (MIRA 15:9)

1. Laboratoriya evolyutsionnoy morfologii Instituta evolyutsionnoy fiziologii AN SSSR, Leningrad.
(NUCLEIC ACIDS) (PROTEINS) (OLFACTORY NERVE)

BRONSHTEYN, A.A.

Histochemical study of the olfactory lining in vertebrates while under the action of odoriferous substances. Dokl.AN SSSR 145 no.3:661-664 Jl '62. (MIRA 15:7)

1. Institut evolyutsionnoy fiziologii imeni I.M.Sechenova AN SSSR. Predstavleno akademikom N.M.Sisakyanom.

(OLFACTORY NERVE)

AID Nr. 972-36 21 May

EFFECTS OF AN ALTERED GRAVITATIONAL FIELD ON THE VESTIBULAR APPARATUS (USSR)

Vinnikov, Ya. A., O. G. Gazenko, L. K. Titova, and A. A. Bronshteyn. IN: Akademiya nauk SSSR. Izvestiya. Seriya biologicheskaya, no. 2, Mar-Apr 1963, 222-231. S/216/63/000/002/003/004

Morphological and histochemical studies of the receptor cells of the utricle and the neurons of the vestibular ganglia of guinea pigs and cats were made while the animals were in a state of relative rest and after exposure to transverse radial accelerations of 1.5 G for 30 min, 3 G for 10 min, and 10 G for 3 min. Accelerations of 1.5 to 3 G caused an increase in acetylcholine esterase activity in the synapse regions and a slight decrease in the cytoplasmic RNA content of the receptor cells of the utricle. Accelerations of 10 G brought about a sharp drop in the cytoplasmic RNA content of the receptor cells of the

Card 1/2

EFFECTS OF AN ALTERED GRAVITATIONAL FIELD [Cont'd] S/216/63/000/002/003/004

utricle and of some neurons of the vestibular ganglia, decreased the total protein and protein functional groups, and lowered the activity of oxidative enzymes in the mitochondria and the activity of acetylcholine esterase in the synapse regions. Acceleration-induced changes in RNA distribution were generally more pronounced in guinea pigs than in cats. Restoration of the amount and activity of these biochemical substances began several hours after exposure to 10 G and was complete 12 to 14 days later. [AB]

VINNIKOV, Ya.A.; GAZENKO, O.G.; TITOVA, L.K.; OSIPOVA, I.V.; BRONSHTEYN, A.A.

Histochemical and ultrastructural changes in the receptor cells of the utricle in a changed gravitational field. Dokl. AN SSSR 153 no.2:450-453 N '63. (MIRA 16:12)

1. Institut evolyutsionnoy fiziologii im. I.M.Sechenova AN SSSR. Predstavleno akademikom N.M.Sisakyanom.

BRONSHTEYN, A.A.

Observations in vivo of the movement of hairs in olfactory cells. Dokl. AN SSSR 156 no. 3:715-718 '64. (MIRA 17:5)

1. Institut evolyutsionnoy fiziologii im. I.M.Sechenova AN SSSR. Predstavleno akademikom I.I.Shmal'gauzenom.

ACCESSION NR: AT4042663 S/0000/63/000/000/0101/0104

AUTHOR: Vinnikov, Ya. A.; Gazenko, O. G.; Titova, L. K.; Broushteyn, A. A.; Govardovskiy, V. I.

TITLE: A structural and cytochemical investigation of the organ of gravity (utriculus of the vestibular portion of the labyrinth) during rest and under the influence of accelerations

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy* konferentsii. Moscow, 1963, 101-104

TOPIC TAGS: utriculus, utriculus function, acceleration effect, cytochemistry, substructure, pig, monkey, pigeon

ABSTRACT: Although the role of the utriculus under normal conditions in maintaining muscle tonus is well known, its functional mechanism in man and animals under the influence of a gravitational field is not clear. Comparative electron microscopic and cytochemical studies were conducted on the utriculi of guinea pigs, monkeys, and pigeons during relative quiescence and brief, repeated accelerations of 10 g. Shifts in the structural and cytochemical organization of ciliary cells

Card 1/2

ACCESSION NR: AT4042663

and synapses of the utriculus during accelerations reflected their stimulation and the transmission of impulses. Accompanying these shifts was a progression of biochemical processes beginning with protein synthesis, leading to tissue respiration and culminating in the activity of acetylcholinesterase. Results of the investigation reveal how the utriculus responds to acceleration on a subcellular level and suggest what its mechanism of regulation would be under space-flight conditions. However, processes of its specific stimulation and their correspondence with receptor regions of the vestibular organ remain unclear.

ASSOCIATION: none

SUBMITTED: 27Sep63 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

Card 2/2

VINNIKOV, Ya.A.; GAZENKO, O.G.; TITOVA, L.K.; BRONSHTEYN, A.A.

Morphological and histochemical studies on the labyrinth of animals under conditions of a changed gravitational field. Izv. AN SSSR Ser. biol. no.2:222-231 Mr-Ap '63. (MIRA 17:5)

1. Institut evolyutsionnoy fiziologii imeni Sechenova AN SSSR.

BRONSHTEYN, A.A.; IVANOV, V.P.

Electron microscopic study of the olfactory organ in lamprey. Zhur. evol. biokhim. i fiziol. 1 no.3:251-261 My-Je '65. (MIRA 18:7)

1. Laboratoriya evolyutsionnoy morfologii Instituta evolyutsionnoy fiziologii i biokhimii imeni Sechenova AN SSSR, Leningrad.

BRONSHTEYN, A.A.

Histochemistry of the olfactory organ. Arkh. anat. gist. i embr. 48 no.4:106-116 Ap '65. (MIRA 18:6)

1. Laboratoriya evolyutsionnoy morfologii (zav. - prof. Ya.A. Vinnikov) Instituta evolyutsionnoy fiziologii i biokhimii imeni Sechenova AN SSSR, Leningrad.

ACC NR: AP6009429 SOURCE CODE: UR/0020/66/166/006/1447/1450

32
B

AUTHOR: Vinnikov, Ya. A.; Gazenko, O. G.; Titova, L. K.; Bronshteyn, A. A.; Pevzner, R. A.; Aronova, M. Z.; Vasil'yev, P. V.

ORG: Laboratory of Evolutionary Morphology, Institute of Evolutionary Physiology and Biochemistry im. I. M. Sechenova, Academy of Sciences SSSR (Laboratoriya evolyutsionnoy morfologii Instituta evolyutsionnoy fiziologii i biokhimii Akademii nauk SSSR)

TITLE: Electron microscopy of mitochondria in the area of utricular synapses in the inner ear of vertebrates

SOURCE: AN SSSR. Doklady, v. 166, no. 6, 1966, 1447-1450

TOPIC TAGS: inner ear, animal physiology, neurophysiology, utricle, receptor cell, synapse, centripetal acceleration, acceleration effect

ABSTRACT: Comparison of utricular receptors in resting and centrifuged animals disclosed some interesting features of the spatial relationship between the mitochondria of hair cells and their synapses. A variety of animals -- white mice, land tortoises, common frogs, pigeons, chickens, and pickerel -- were subjected to single and repeated centripetal accelerations of 10—18 G for 5—10 min. The inner ear of each animal was removed before decapitation. Electron microscopy of the utricles of experimental animals showed that the mitochondria of utricular hair cells can be in close contact with the presynaptic membrane, especially in animals subjected to

Card 1/2 UDC: 576.347

accelerations. This grouping of the presynaptic mitochondria at the membrane was especially evident in the utricular hair cells of white mice rotated for 3 min at 18 G. Grouping of presynaptic mitochondria was also observed in efferent bud-shaped nerve endings in the utricles of frogs and tortoises centrifuged three times at 10 G. A similar phenomenon was noted in utricular cells of pickerel after 10 min of centrifugation at 10 G. It is postulated from the experimental data, including electron micrographs, that the mitochondrial apparatus of utricular receptor cells in vertebrates participates in the work of utricular synaptic structures. The authors' previous observations of the change in dehydrogenase activity of the synaptic mitochondria as a result of specific stimulation of the utricle support this conclusion. Various possible mechanisms of mitochondrial participation in the activity of synapses are presented. The results of this study are of special significance in increasing the understanding of the nature of utricular receptor excitation and the neural transmission of excitation under altered gravity conditions. An interpretation of these phenomena will be the subject of future studies. [JS]

SUB CODE: 06/ SUBM DATE: 28Jul65/ ORIG REF: 008/ OTH REF: 010/ ATD PRESS: 4219

Card 2/2 ULR

8A B 64
k

621.316.54.027.3 - 82 2831

Switch with solid gas-generating dielectric for 6-10 kV, 200-300 X 10^3 KVA. Butkevich, I. V., and Bronshtein, A. M. Elektrichestvo (No. 5) 35-43 (1946) In Russian. - A novel type of switch has been developed to replace oil-filled switchgear, particularly suitable for frequent operation (electric furnaces). The dielectric is polymethylmethacrylate. Its advantages are: high quenching qualities, low specific gas generation per kW/sec, good electrical and mechanical properties. Weak points are: low thermal stability, large amount of nitrogen liberated. It is possible to use the gas generated in the chamber walls for improved operation of the switch, blowing it across the chamber by me ans of buffer reservoirs. Transient effects are investigated, and self-resonances, critical capacitance and the "residual resistanc e" of the arc calculated. Several cross-sectional drawings, oscillograms and curves are presente d. A. L.

~~BRONSHTEYN, A. M.~~

BRONSHTEYN, A.M.

SA

2704. The resistance of an arc gap during the process of voltage recovery. BRONSTEIN, A. M. *Elektrichestvo* (No. 4) 39–45 (April, 1949) *In Russian.*—Measurements of the residual currents at arc extinction were made on gas-generating tubes of various shapes. The resistance of the column in a gas-generating tube on breaking of currents of 25–500 A immediately after the current to be broken had passed through its last zero was several kΩ for large current values, and > 10 kΩ for small currents. The resistance of the arc gap immediately after the beginning of the voltage recovery rose slowly, especially at high rupturing currents. Often there was an initial decline in the residual resistance. The oscillograms show that the discharge characteristic is not a falling one. It must be assumed that during the recovery an arc-discharge with strongly contracted arc column takes place, comparable to the arc discharge in a very narrow channel. The value and duration of the residual current depends also on the geometry of the arc-quenching tube. The residual resistance up to the first amplitude of the recovery voltage is relatively low and influences the form of the recovery voltage curve.

R 64

electrical theory

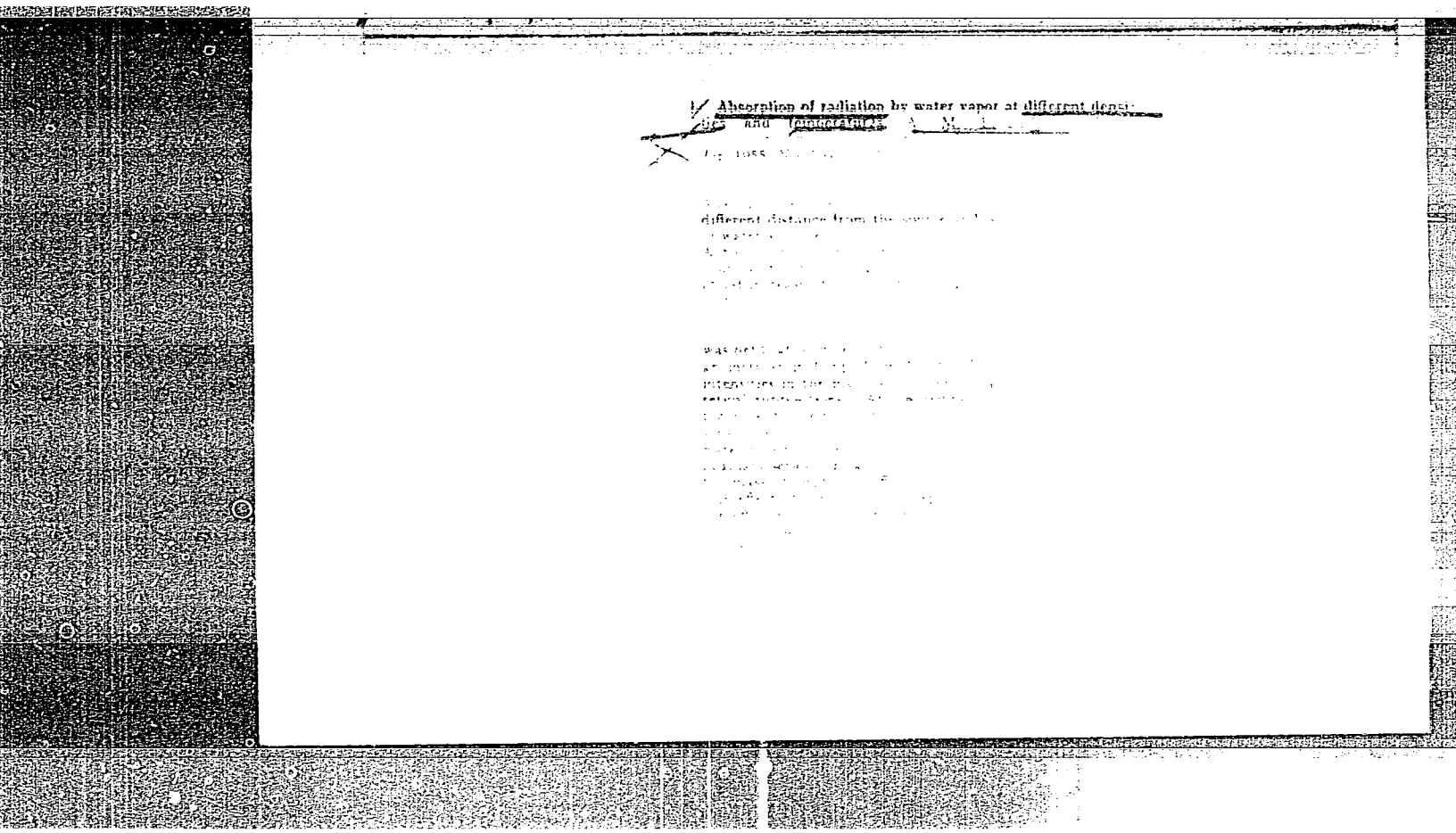
tube theory

All-Union Elec. Eng. Inst. im. V. I. Lenin

BRONSHTEYN, A.M.

Vozdyshnye Vyklyuchateli Naruzhnoi Ustanovki

Elektrichestvo no.3, 1952
Kandidat Tekhn. Nauk



1/ Absorption of radiation by water vapor at different densities and temperatures.

BUTKEVICH, G.V., [translator], prof., red.; BRONSHTEYN, A.M., red.; VORONIN, K.P., tekhn. red.

[High-voltage circuit breakers] Vykliuchateli vysokogo napriazheniia. Pt.1. [Steel clad breakers for 69-330 kv.][Translations from U.S. periodicals] Bakovye vykliuchateli na napriazheniia 69-330 kv. Moskva, Gos. energ. izd-vo. 1958. 238 p. (MIRA 11:9)
(Electric circuit breakers)

GERSTSONOVICH, S. [Gerszonowicz, S.]; BRONSHTEYN, A.M. [translator]; BUTKEVICH, G.V., prof., red.; MIKHAYLOV, V.V., red.; VORONIN, K.P., tekhn.red.

[High-voltage a.c. circuit breakers] Vykliuchateli peremennogo toka vysokogo napriazheniia. Moskva, Gos.energ.izd-vo, 1958. 535 p. Translated from the English. (MIRA 13:7)
(Electric circuit breakers)

BRCUNSHTEYN, A.M.; KRASIL'SHCHIKOV, L.B.

Radiation thermoelectric cell with a direct visual adjustment.
Opt. i spektr. 4 no.3:412-413 Mr '58. (MIRA 11:4)

1. Glavnaya geofizicheskaya observatoriya im. A.I. Voyeykova.
(Thermoelectricity) (Radiometer)

AUTHOR: Bronshteyn, A.M., Candidate of technical sciences

TITLE: An Air-Blast Alternating-Current Circuit-Breaker for Electric Locomotives (Vozdushnyy vyklyuchatel' peremennogo toka dlya elektrovozov)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Nr 12, pp 31-35 (USSR)

ABSTRACT: This article describes a circuit breaker intended to protect the equipment on 20-25 kV, 50 c/s locomotives on the experimental Pavelets-Ozherel'ye line. The circuit-breakers intended for use on locomotives types NO were rated at 20 kV and 150 A with a rupturing capacity of 100 MVA; other data are also given. Later, in the circuit-breakers intended for installation on locomotives type N60, the rated current was increased to 300 A, the rated rupturing current to 500-600 A and the rupturing capacity to 150 MVA. A sectioned drawing of the air-blast circuit-breaker for electric locomotives types NO and N60 is given in Fig 1; designer I.M.Novitskiy-Sh[illegible] participated in the development of this design. The construction and operation of the breaker are described and a photograph appears in Fig 2. The pattern is VOV-20M rated at

An Air-Blast Alternating-Current Circuit-Breaker for Electric Locomotives

20 kV and 300 A, with a rupturing capacity of 150 MVA. The results of type tests and special tests on the VOV-20M are then given. One switch was subjected to 4,000 opening and closing operations with the maximum operating pressure of 9 atm, including 100 operations at a pressure of 10 atm. No wear or damage to the components was observed. Heating tests run at 300 A before and after the mechanical tests showed that the switch is generously rated in this respect. Insulation tests were made and the main results are given in Table 1; the standard requirements were met with a reasonable margin. It was found that the insulators could stand 22 kV when wet. Rupturing-capacity tests were mostly at the minimum compressed-air operating pressure of 7 atmospheres. A brief analysis is given of the most difficult operating conditions in actual service and the corresponding test circuits are described. Oscillograms of short-circuit-current interruption are given in Fig 3. The results of rupturing capacity tests

Card 2/4

are sketched in Table 2; it will be seen that with the minimum operating air pressure of 7 atm, the circuit-breaker reliably interrupted a current of up to 4,300 A with a recovery-voltage frequency greater than 10,000 c/s and a recovery-voltage amplitude of 37.5 kV. The results confirm that the circuit-breaker has adequate rupturing capacity and can interrupt currents of 7,500 A, five or six times and currents up to 3,000 A some tens of times. Fig 4 sketches the oscillograph record of tests to determine the dynamic stability and the circuit-interruption time. It will be seen that the greatest current amplitude was 20,650 A and after a series of such tests neither the main nor the arcing contacts were damaged. The oscillogram also shows that the total interruption time is 0.04 sec. A number of other tests confirm that at short-circuit currents of 1,000 - 7,500 A and voltages of 22 kV the total opening-time ranges between 0.03 and 0.04 sec; at currents of 400 - 900 A, the opening time was 0.04 - 0.05 sec; at currents of 300-400 A, it was 0.05 - 0.06 sec.

SOV/110-58-12-8/22

An Air-Blast Alternating-Current Circuit-Breaker for Electric Locomotives

Circuit-breakers of this type are in successful operation on locomotives on the experimental section of line between Ozherelye and Pavelets. There are 4 figures and 2 tables.

SUBMITTED: 30th June 1958

Card 4/4

BORTNICHUK, N.Ya., inzh.; BRONSHTEYN, A.M., kand.tekhn.nauk; [illegible] Kh.Ya., inzh.; DUBROVSKIY, Z.M., inzh.; KATKOV, B.S., inzh.; KRASKOVSKAYA, S.N., inzh.; OSIPOV, S.I., inzh.; PERTSOVSKIY, M.L., inzh.; RAKOV, V.A., inzh.; REBRIK, B.N., kand.tekhn.nauk; SUYETIN, T.A., kand.fiziko-matem.nauk; KHITROV, P.A., tekhn.red.

[Electric locomotives operating on alternating current with ignitrons] Elektrovozy peremennogo toka s ignitronami. Pod obshchei red. V.A.Rakova. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 286 p. (MIRA 12:10)

(Electric locomotives)

SOV/110-59-5-7/25

AUTHORS: Bronshteyn, A.M., Candidate of Technical Sciences and Katkov, B.S., Engineer

TITLE: Current Distribution and Heating in Heavy-Current Three-Phase Conductors (Raspredeleniye toka i nagrev sil'notochnykh trekhfaznykh tokoprovodov)

PERIODICAL: Vestnik elektropromyshlennosti, 1959, Nr 5, pp 25-30 (USSR)

ABSTRACT: Difficulty is experienced in arranging the multi-conductor 10000 A busbars for generators of 200 to 300 MW. With currents of this order, the current distribution in the conductors of one phase of a busbar system is influenced by the proximity of the other phases. It is very difficult to calculate the current distribution and heating in such busbar systems. Accordingly, an experimental study was made of various layouts. The work was undertaken in connection with the development of generator circuit-breakers for rated currents of 10000 A but it is generally applicable to the design of heavy-current busbars. The tests were made on a model layout supplied through a step-down transformer from a 6.6 kV 1300 kVA generator. The length of the busbars,

Card 1/5

Current Distribution and Heating in Heavy-Current Three-Phase Conductors

usually 4.5 metres, was sufficient to avoid end-effects; the spacing between the centre-lines of the three busbars was 100 to 120 cm. Because of transformer asymmetry and different phase inductances, the three-phase current was not symmetrical. For example, when the current in the centre phase was 10000 A, the outer phases carried 8000 A. This asymmetry did not much influence current distribution but necessitated making heating tests on each phase in turn. Current was measured without introducing current transformers as they would disturb the current distribution. The method of measurement is described and it is stated that the maximum error was ± 10 to 15%. Thermo-couples were used for temperature measurement. Test results for the centre phase alone, with a total phase current of 10000 A in the three different conductor dispositions shown in Fig 1, are given in Table 1. The

current carried by each individual conductor bar is recorded and it will be seen that the algebraic sum of these currents is 104 to 113% of the total current, which indicates that the measurements were sufficiently accurate. The relative merits of the three different conductor bar dispositions are discussed; it is concluded that for the centre phase, for which the magnetic fields of the outer phases compensate one another, the best configuration is a square or a circle. Table 2 gives test results for the outer phase busbar when its conductor bar dispositions are as depicted in Fig 2. Proximity effects are appreciable even when spacing between phase centre-lines is 1000 mm. To illustrate the importance of proximity effects, special tests were made with a disposition designated 5-11 and proposed by L.I.Dvoskin. Table 2 records that bar Nr 2 then had a temperature rise of 45°C with a total phase current of only 5750 A, whilst bars Nr 1 and 4 were very lightly loaded. It will also be seen that the 6-11 disposition

Current Distribution and Heating in Heavy-Current Three-Phase Conductors

gives practically uniform current distribution in the bars and that 8-11 is even better. The tabulated data suggest several methods of improving the current distribution in heavy-current multiple-conductor busbars. All the dispositions sketched in Fig 1 and 2 were of separate copper bars with gaps of 10 mm between them. Actual busbars are made up of rolled sections, so that the gaps are fewer or absent. This does not much affect current distribution but it does impair cooling. To check the point, heating tests were made with the less open dispositions depicted in Fig 3. The results are recorded in table 3. It is concluded that the experimental data in tables 1, 2 and 3 should be of value in choosing dispositions of conductor bars in heavy-current busbar systems. The data also provide information about current distribution and temperature rise in the individual bars of each multiple-conductor phase busbar. These are

Card 4/5

. . .

SOV/110-59-5-7/25

Current Distribution and Heating in Heavy-Current Three-Phase Conductors

3 figures and 3 tables.

SUBMITTED: 19th January 1959

Card 5/5

BRONSHTEYN, Anatoliy Markovich; KATKOV, Boris Semenovich; BRONFMAN, Aron Iosifovich; SIDOROV, N.I., inzh., red.; BOBROVA, Ye.N., tekhn.red.

[Main switches and arresters of a.c. electric locomotives] Glavnye vykliuchateli i razriadniki elektrovozov peremennogo toka. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1960. 54 p. (MIRA 13:4)
(Electric locomotives)

BRONSHTEYN, A.M., kand.tekhn.nauk

Russian designs of air switches for large voltages. Vest.elektroprom. 33 no.2:38-44 F '62. (MIRA 15:2)
(Electric cutouts)

L 14534-63 EWT(1)/BDS AFFTC/ASD/SSD

ACCESSION NR: AP3004903 S/0120/63/000/004/0118/0119

AUTHOR: Belov, N. S.; Bronshteyn, A. M.; Ozerov, L. N.; Rafal'son, A. E. 56 55

TITLE: Electron multiplier with magnetic focusing for a rapid-action mass spectrometer with time-of-flight ion separation

SOURCE: Pribory* i tekhnika eksperimenta, no. 4, 1963, 118-119

TOPIC TAGS: electron multiplier, mass spectrometer, magnetic focusing, time-of-flight separation, rapid-action mass spectrometer, ion separation

ABSTRACT: An electron multiplier for use in registering small pulsed currents of a rapid-action time-of-flight mass spectrometer is described. The multiplier uses crossed electric and magnetic fields to focus secondary electrons from dynode to dynode (see Fig. 1 of Enclosure). A photograph of the device is shown in Fig. 2. The potential difference between stages of the multiplier is 260 v, and field strength is 4350 v/cm. Uniform electric field distribution is achieved by positioning the dynodes in 0.6-mm steps. A magnetic field of 410 oe is produced by a permanent magnet. Two models with 15 and 19 stages, respectively, were studied. Ion current was produced by a rapid-action mass spectrometer with an ion source capable of pulsed and constant-current operation. The mean amplification factor,

Card 1/2

L 14534-63

ACCESSION NR: AP3004903

determined as the ratio of input and output current ratios, was 1.2 x 10^5 for the 15-stage multiplier and 4 x 10^8 for the 19-stage multiplier. Output pulse voltage was a linear function of gas pressure. Daily operation of the multipliers using gas and hydrocarbon mixtures with periodic heating to 150—200C and periodic exposure to the atmosphere did not lead to any substantial change in the amplification factor. Disassembly, cleaning, and reassembly with full restoration of the original parameters were easily accomplished. Orig. art. has: 3 figures.

ASSOCIATION: SKB Analiticheskogo priborostroyeniya AN SSSR (SKB of Analytical Instrument Construction, AN SSSR)

SUBMITTED: 03Sep62 DATE ACQ: 28Aug63 ENCL: 02

SUB CODE: PH, SD NO REF SOV: 001 OTHER: 003

Card 2/2

[redacted], A. A.; BRON, O. B.; BUTKEVICH, G. V.; ZAKHAROV, S. N.; KAPLAN, V. V.; AKODIS, M. M.; MASLENNIKOV, D. S.; RUDNYY, V. M.

"Some Problems of Constructing High Power Circuit-Breakers."

report submitted for Intl Conf on Large Electric Systems, 20th Biennial Session, Paris, 1-10 Jun 64.

ARKHIPOV, V.N.; BIRYUKOV, V.G.; BRONSHTEYN, A.M.; DROZDOV, N.G.; KRESTOV, N.I.; NAYASHKOV, I.S.; PETROV, G.N.; SIROTINSKIY, L.I.; CHILIKIN, M.G.

Professor G.V. Butkevich; on his 60th birthday. Elektrichestvo no.10:92-93 O '63. (MIRA 16:11)

BRON, O. B.; BRONSHTEYN, A. M.; BUTKEVICH, G. V.; ZAKHAROV, S. N.; KAPLAN, V. V.; AKODIS, M. M.; MASLENNIKOV; RUDNYY, V. M.

"Some Problems of Constructing High Power Circuit-Breakers."

report submitted for 20th Biennial Sess, Intl Conf on Large Electric Systems, Paris, 1-10 Jun 64.

BELOV, N.S.; BRONSHTEYN, A.M.; OZEROV, L.N.; RAFAL'SON, A.E.

Electron multiplier tube with magnetic focusing for a high-speed mass spectrometer with separation of ions in flight. Prib. i tekh. eksp. 8 no.4:118-119 Jl-Ag '63. (MIRA 16:12)

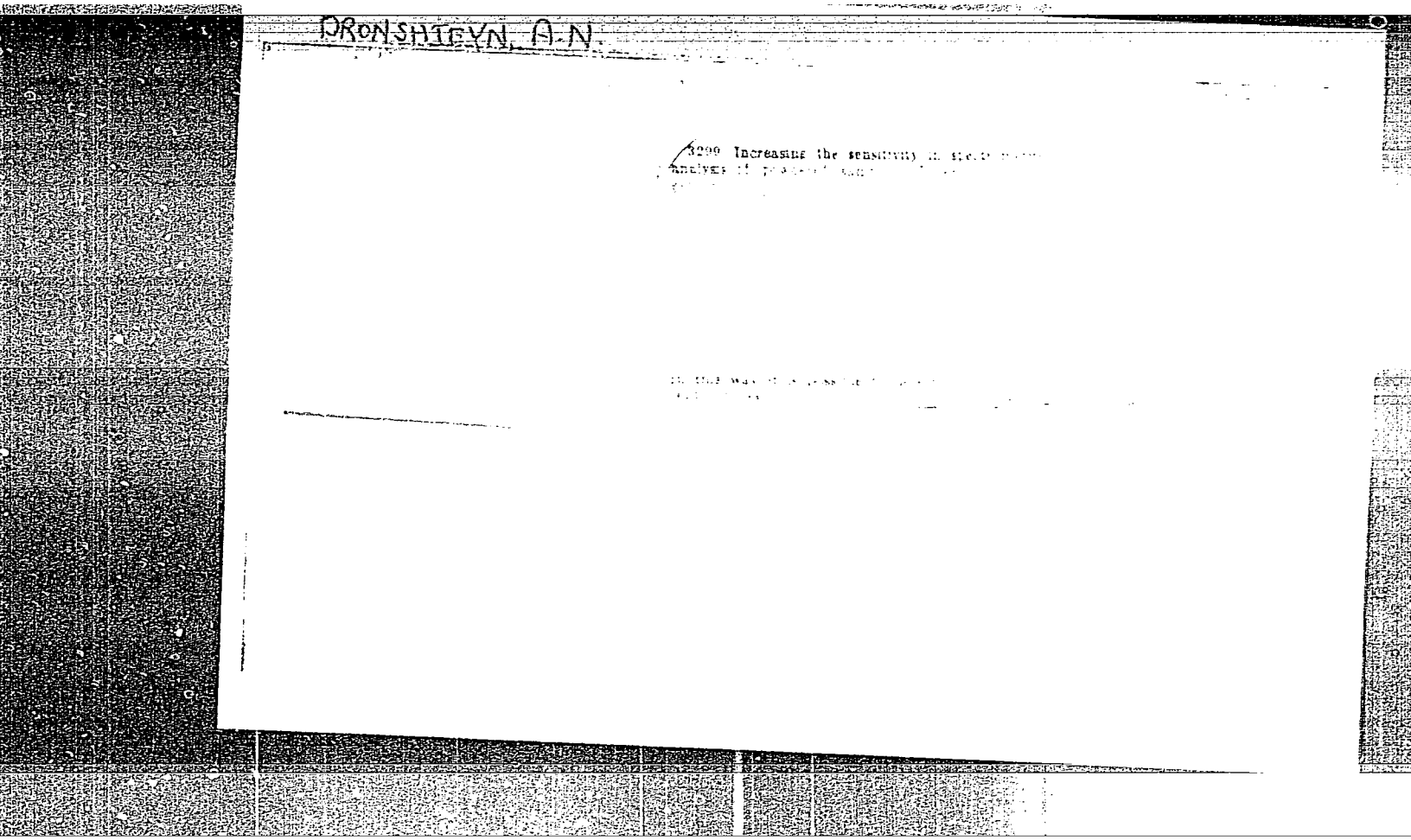
1. Spetsial'noye konstruktorskoye byuro analiticheskogo priborostroyeniya AN SSSR.

BRONSHTEYN, A.M., kand.tekhn.nauk; GERCHIKOV, V.R., inzh.

Large air-filled generator switches. Elektrotekhnika 34 no.12:26-31 D '63. (MIRA 17:1)

TAYEV, Ivan Sergeyevich; BRONSHTEYN, A.M., kand. tekhn. nauk, red.

[Electric arc in low-voltage apparatus] Elektricheskaia duga v apparatakh nizkogo napriazheniia. Moskva, Energiia, 1965. 222 p. (MIRA 18:7)



СТАС Н.ШТЕЙН, А.Н.

BRITSKE, M.E., red.; BRONSHTEYN, A.N., red.; MATVEYEV, N.I., red.; POLYAKOVA, V.V., red.p FILIMONOV, L.N., red.; TRUSOV, N.S., tekhn.red.

[Papers read at the Second All-Union Conference of Spectroscopic Assayers of Nonferrous Metals] Materialy 2-go Vsesoiuznogo soveshchaniia spektroskopistov-analitikov tsvetnoi metallurgii. Red. kollegiia M.E.Britske, i dr. Moskva, Nauchno-tekhn.ob-vo tsvetnoi metallurgii, 1957. 128 p. (MIRA 11:3)

1. Vsesoyuznoye soveshchaniye spektroskopistov-analitikov tsvetnoy metallurgii, 2d, Moscow, 1955.
(Nonferrous metals) (Assaying)

SOV/137-58-8-18091

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 269 (USSR)

AUTHOR: Bronshteyn, A. N.

TITLE: Determination of Gallium, Indium, and Thallium by the Method of Spectroscopic Analysis of Lead-zinc Ores and Their Conversion Products (Opredeleniye galliya, indiya i talliya metodom spektral'nogo analiza v svintsovo-tsinkovykh rudakh i produktakh ikh pererabotki)

PERIODICAL: Sb. nauchn. tr. Gos. n.-i., in-t tsvetn. met., 1958, Nr 14, pp 51-57

ABSTRACT: The method of the determination of Ga, In, and Tl in specimens containing 0.001 - 0.05% with one set of standards is described. The determination of these metals in concentrations of 0.05 - 1% is carried out by means of diluting the test samples and the standards. The test samples are introduced into the discharge on brass or revolving Cu discs; owing to this the error of the determination is $\leq$4 - 6%. The rate of the introduction is 50 mm/min. A Cu rod 9 mm in diam serves as the upper electrode. The excitation of the spectra is achieved in an alternating-current arc with a 4-6-amp current.

Card 1/2

Determination of Gallium (cont.)

The standards are prepared on a base of ZnO & ZnS, PbO, PbS & $PbSO_4$, CaO, MgO and quartz. In, Tl, and Ga are introduced into the standards in the form of the solutions of their nitrates. It is demonstrated that the sensitivity increases upon dilution of the ZnS test sample in a 1:2 ratio. To stabilize the temperature of the flames and to eliminate the effect of elements with low ionization potentials K_2SO_4 (10 - 15% of the weight of the test sample) is introduced into all the powders. Noticeably underrated results were obtained in the presence of halides. The comparison of the results of spectrographic and polarographic analyses for In and Tl was made; these results agree well. The photographing was performed on a KS-55-type spectrograph; exposure time was 40 - 60 sec. The analytical pairs of lines (in angstroms) are: Ga 4172.06 - K 4044.14, In 4101 - K 4044.14, Tl 3775.72 - K 4044.14.

1. Lead ores—Spectrographic analysis
2. Zinc ores—Spectrographic analysis
3. Gallium—Determination
4. Indium—Determination
5. Thallium—Determination

A. Sh.

Card 2/2

86231

S/032/60/026/008/029/046/XX
B020/B052

55310 1273, 1282, 1296

AUTHORS: Bronshteyn, A. N., Sendul'skaya, T. I., and Shpirt, M. Ya.

TITLE: Determination of Germanium and Gallium in Coals by the Spectroscopic Methods

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 8, pp. 973-974

TEXT: The method developed by the authors differs from that described by M. A. Notkina and A. K. Rusanov (Ref. 1) by the possibility of determining Ge and Ga with a content of 0.001 to 1% in coal ashes from one weighed in portion. A buffer mixture of coal dust and NaCl (1:1) was used for the stabilization of the conditions during the vaporization of the sample, and the excitation of the spectrum. 0.1% of SnO_2 is added to this mixture as internal standard. The accuracy of analysis is 10-12%. The analysis of 20 samples stretched over 2.5 to 3.0 working days. The door of the muffle furnace was left half open to prevent the formation of easily volatile GeS, GeO, and Ga_2O. Spectrographs of type ИСП-22 (ISP-22) or ИСП-28 (ISP-28) are used. The light source was an a.c. electric

Card 1/2

Determination of Germanium and Gallium in Coals by the Spectroscopic Methods

S/032/60/026/008/029/046/XX
B020/B052

arc (generator ПС-39 (PS-39) or ДГ-1 (DG-1) with a current of 8 a. The time of exposure was 60 seconds. Bands used for the analysis: Ge 2651.18 and Ga 2943.64 A, reference bands: Sn 3034.12 and 2839.99 A. With a germanium concentration of up to 0.003%, the error is 10-12%, with an equal gallium concentration it is 7.5 - 10%. Errors may be due also to the different macrostructure of standards and samples. The data of the table characterize the analogy of the results of analysis for coals of different types. From a comparison of the results obtained by analyzing initial raw materials, their products, and chemical and spectroscopic determinations it may be concluded that the error never exceeds 10%. The chemical determination of germanium was carried out by a method described by V. A. Nazarenko (Ref. 3), that of gallium by a method described by V. S. Saltykova and Ye. A. Fabrikova (Ref. 4). There are 1 table and 4 Soviet references.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR (Institute of Combustible Minerals of the Academy of Sciences USSR)

BRONSHTEYN, A.N.; LIVSHITS, D.M.

Determination of germanium in ores and products of nonferrous metallurgy by spectrum analysis. Sbor. nauch. trud. Gintsvetmeta no.19:678-681 '62. (MIRA 16:7)

(Germanium—Spectra)
(Nonferrous metals—Spectra)

BRONSHTEYN, A.N.

Quantitative determination of tellurium in products of nonferrous metallurgy by the spectral method. Sbor. nauch. trud. Gintsvetmeta no.19:682-688 '62. (MIRA 16:7)

(Tellurium--Spectra)
(Nonferrous metals--Spectra)

BRONSHTEYN, A. P.

28412

Povyshayem kachyestvo produktsii (fabrika "mayak ryevolyutsii"). Bumazh. Prom-stv. 1949 No. 4 S. 31-34

SO: LETOPIS No. 34

SOV/68-59-7-13/33

AUTHOR: Bronshteyn, A.P.

TITLE: Experience in Designing and Building Silica Coke Ovens of Small Dimensions

PERIODICAL: Koks i khimiya, 1959, Nr 7, pp 37 - 38 (USSR)

ABSTRACT: The design of building silica batteries of small dimensions for the replacement of old chamotte batteries (built in 1906 - 1916) is outlined. Normal size batteries could not be built in view of insufficient services for coal preparation. The heating scheme designed for small batteries is shown in the figure.
There is 1 figure.

ASSOCIATION: Yuzhkoksoremont

Card 1/1

BOGOSLOVSKIY, Yu.N.; MAKAROV, G.N.; BRONSHTEYN, A.P.; MUZYCHENKO, L.A.; OMEL'CHENKO, B.N.

Effect of added coke on the process of carbonization of gas coal and on the quality of the coke produced. Trudy MKHTI no.28: 64-72 '59. (MIRA 13:11)

(Coal--Carbonization)

BRONSHTEYN, A.P.; LOPAREV, V.G.; SYREYSHCHIKOV, V.V.; ZHARNOKH, A.M.

Production of ammonium sulfate of prescribed quality. Koks i khim. no.7:42-44 Jl '61. (MIRA 14:9)

1. Chelyabinskiy metallurgicheskiy zavod.
(Chelyabinsk--Ammonium sulfate)

BRONSHTEYN, A.P.; BUKHAVTSEV, N.A.

Eliminating the deformation of gas collectors. Koks i khim. no.2:30 '62. (MIRA 15:3)

1. Trest "Uglekoksokhimremont". (Coke ovens)

BRONSHTEYN, A.P.; ARKHANGEL'SKAYA, T.V.; TALISMAN, L.B.; GORBATYY, Yu.Ye.; EPEL'BAUM, M.B.

Physicochemical investigation of the thermal destruction process of some Kuznetsk Basin coals. Koks i khim. no.11:12-17 '62. (MIRA 15:12)

1. Chelyabinskiy metallurgicheskiy zavod (for Bronshteyn, Arkhangel'skaya). 2. Ural'skiy filial Akademii stroitel'stva i arkhitektury SSSR (for Talisman, Gorbatyy, Epel'baum).
(Kuznetsk Basin—Coal—Carbonization)

BRONSHTEYN, A.P.; MAKAROV, G.N.; GORBATYY, Yu.Ye.; EPEL'BAUM, M.B.

Shrinkage and formation of phase stresses in coke. Koks i khim. no.8:22-27 '63. (MIRA 16:9)

1. Chelyabinskiy metallurgicheskiy zavod (for Bronshteyn). 2. Moskovskiy ordena Lenina khimiko-tekhnologicheskiy institut im. D.I.Mendeleyeva (for Makarov). 3. Ural'skiy filial Akademii stroitel'stva i arkhitektury (for Gorbatyy, Epel'baum).
(Coke)

[illegible], Lev Davidovich; ARONSHTEYN, Aron Shlemovich; [illegible], A.A., red.

[Operation of battery cyclones] Ekspluatatsiia batarei[illegible]kh tsiklonov. Moskva, Izd-vo "Energiia," 1964. 150 p. (MIRA 17:5)